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TAXONOMY OF THE *PENSTEMON CAMPANULATUS* COMPLEX (SCROPHULARIACEAE) AND DESCRIPTION OF A NEW SPECIES FROM ITS MIDST

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ABSTRACT

The taxonomy of the wholly Mexican species *Penstemon campanulatus* is reviewed, resulting in the description of a new taxon, **P. wendtiorum** B.L. Turner, **sp. nov.**, and the change of *P campanulatus* subsp. *chihuahuensis* to varietal rank (as var. **chihuahuensis** (Straw) B.L. Turner, **stat. nov.**).

KEY WORDS: *Penstemon, P. campanulatus,* Scrophulariaceae, Mexico, Coahuila

Straw (1963) provided an excellent treatment of the *Penstemon campanulatus* complex, viewing it as divided into three subspecies. The following key is adapted from his study:

1. Mid-stems variously eglandular-pilose with light brown to white hairs mostly ca 1 mm long; north-central Mexico (Chihuahua, Durango) ..... subsp. **chihuahuensis**
1. Mid-stems glabrous to minutely puberulent, any longer hairs glandular.

   2. Branches of inflorescence glandular-pubescent ..... subsp. **campanulatus**
   2. Branches of inflorescence not as above, glandular hairs confined to calyces and pedicels; localized endemic (Sonora) ..... subsp. **subglandulosus**

Subsp. **campanulatus**

This, the typical subspecies, is based upon a collection from south-central Mexico. It is best recognized by its narrowly lanceolate leaves and glandular-pubescent upper stems and leaves, the lower stems to some degree glabrous or minutely pubescent. It intergrades with subsp. *chihuahuensis* in Durango where their distributions overlap (along highway 40 between the city of Durango and El Salto).

Subsp. **chihuahuensis** Straw

This taxon is typified by material collected by *Townsend & Barber 106*, from near Colonia Garcia, Chihuahua, Mexico. It is a very distinct taxon, what with its characteristic pubescence, as noted in the above key. Did it not intergrade into the typical subspecies in the vicinity of Cd. Durango, it would probably be worthy of specific rank.

Subsp. **subglandulosus** (S.S. White) Straw

This is a weakly differentiated, very localized taxon typified by a collection from Huepari Cañon in central Sonora. Straw (1963) stated that when first assessed, he "thought this taxon should be raised to specific rank." But further studies showed "that this local population intergrades both in pubescence and in leaf characters with other populations, as in collections of Hewitt from nearby Chihuahua. On this account the taxon is left in a subspecific status. It does, apparently, have a certain geographic standing which is interpreted, along with the morphology, to warrant more than the varietal position originally given to it." Unfortunately, Straw did not define his varietal or subspecific concepts, but I conclude from his comments quoted here that any recognizable

populational unit should be given subspecific status and that the term variety is to be used for non-biological taxonomic units.

Regardless, I view the above named taxa as only varietally distinct since they intergrade with each other in or near regions of contact (cf. Turner and Nesom 2000, re my infraspecific concepts) and modify the nomenclature accordingly, as follows:

PENSTEMON CAMPANULATUS (Cav.) Willd., Sp. Pl. 3: 228. 1800.
Chelone campanulata Cav., Ic. 1: 18. t. 29. 1791.

Subsp. campanulatus

Var. campanulatus Map 1

The typical subspecies, by my calculations, contains but a single, highly variable, widespread variety that intergrades to a limited extent with var. *chihuahuensis* in central Durango, Mexico.

Subsp. chihuahuensis Straw, Brittonia 15: 59. 1963.

The subsp. *chihuahuensis* contains two intergrading varieties, as follows:

Var. chihuahuensis (Straw) B.L. Turner, **comb. et stat. nov. Map 2**

Penstemon campanulatus subsp. *chihuahuensis* Straw, Brittonia 15: 59. 1963.

As noted above, this taxon is best treated at the varietal level, hence the new combination proposed here.

Var. subglandulosus S.S. White, J. Arnold Arb. 28: 440. 1947. **Map 2**

Penstemon campanulatus subsp. *subglandulosus* (S.S. White) Straw, Brittonia 15: 58. 1963.

Straw (1963) elevated this weakly differentiated taxon to subspecific rank, as noted above. I think it most logically retained at the varietal level within the subsp. *chihuahuensis*, with which it intergrades.

In the course of the taxonomic venture discussed above, I chanced upon a specific novelty that clearly relates to the *Penstemon campanulatus* complex, this described below:

PENSTEMON WENDTIORUM B.L. Turner, **sp. nov. Fig. 1, Map 1 TYPE: MEXICO. Coahuila. Mpio. Melchor Muzquiz:** Rincón de María, on Hacienda La Babia, which is ca. 70 mi by road NW of Muzquiz, around "Slump Spring" along the spring-level road in SW part of the rincón, wooded NE-facing sheltered slopes with openings around the spring, limestone area, 28° 28' N, 102° 04' 30" W, 1400 m, 26 Apr 1975, *Tom Wendt & David Riskind 873* (holotype: TEX).

Penstemo campanulato (Cav.) Willd. similis sed differt foliis late lanceolatis (1.5–3.0 cm latis vs 0.5–1.5 cm), calycibus minoribus (6–7 mm longis vs 6–15 mm), et corollis minoribus (ca 2 cm longis vs 2.5–3.5 cm).

Suffruticose perennial herbs to 75 cm high. **Mid-stems** purplish, minutely and uniformly ciliate. **Leaves** broadly lanceolate, 5–7 cm long, 1.5–3.0 cm wide, essentially glabrous, except for minute ciliate hairs along the mid-ribs, the surfaces glandular-punctate, the margins serrate throughout, or nearly so; petioles 0–1 mm long. **Inflorescence** ca 20 cm long, bracteate, the larger bracts subcordate, 4 cm wide, having well-developed axillary branching, densely glandular-pubescent throughout, but not extending to adjacent lower stems. **Pedicels** 6–10 mm long. **Flowering calyces** 6-7 mm long. **Corollas** ca 2 cm long, 1 cm wide, "rose-lavender," glandular-pubescent, the lower lip pilose within, abruptly ampliate, the tube ca 4 mm long. **Capsule** (immature) ovate, ca 7 mm long, 4 mm wide, glabrous or nearly so.

Penstemon wendtiorum is distinct from *P. campanulatus* in its broadly lanceolate leaves (1.5–3.0 cm wide vs. 0.5–1.5 cm) and smaller flowers (calyces 6–7 mm long vs. 6–15 mm, corollas ca 2 cm long vs. 2.5–3.5 cm). Additionally, *P. campanulatus* is nearly always found at elevations between 2000 and 3000 meters, while the present novelty reportedly occurs at 1400 meters. The type locality of *P. wendtiorum* is known to harbor a number of yet other novelties, noteworthy being that of *Oenothera riskindii* W.L. Wagner (Syst. Bot. 30: 349. 2005).

It is a pleasure to name the taxon for one of its principal collectors, Dr. Tom Wendt, Curator LL-TEX, and his lovely wife Kathleen Collins, happily married for many years now.

ACKNOWLEDGEMENTS

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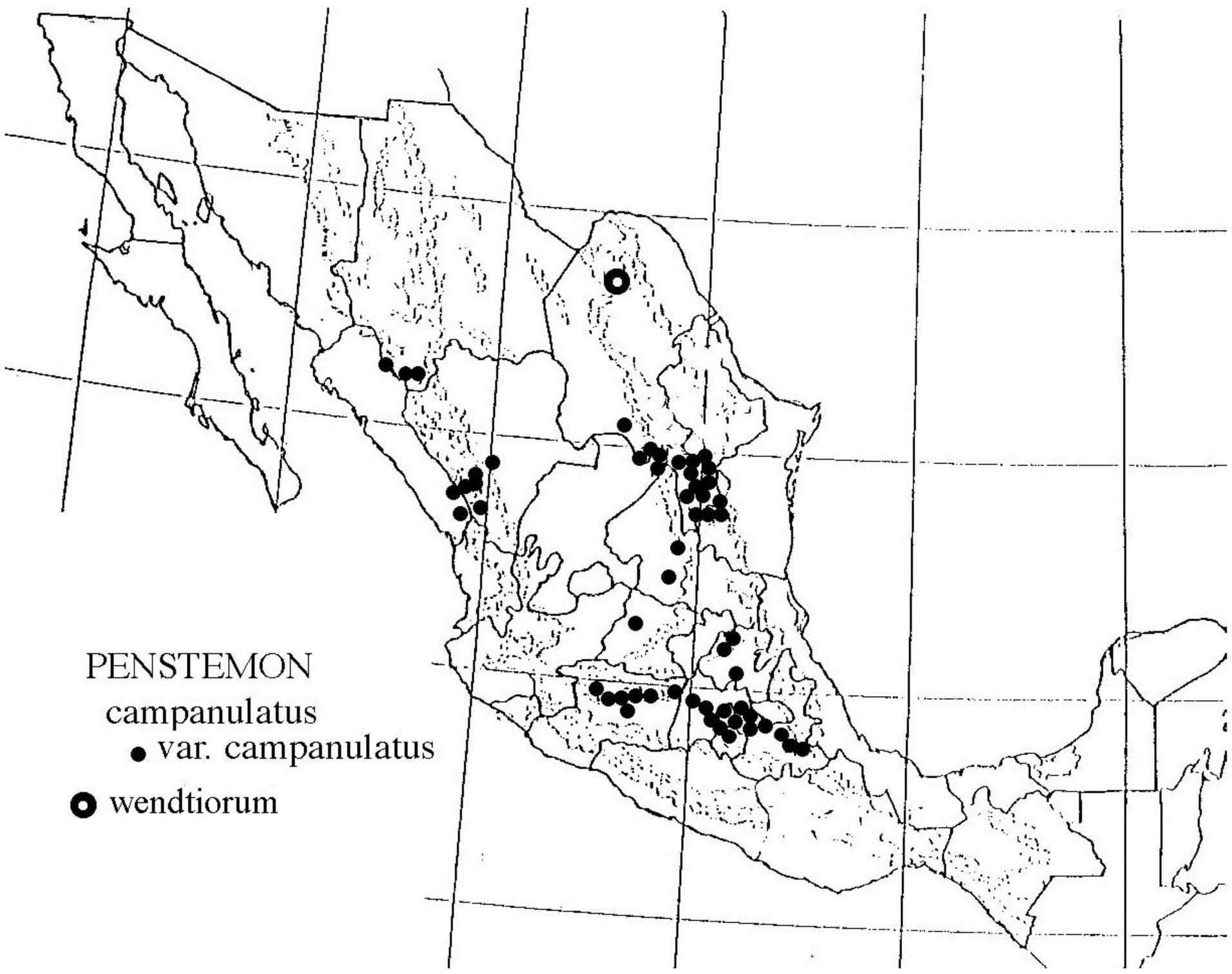
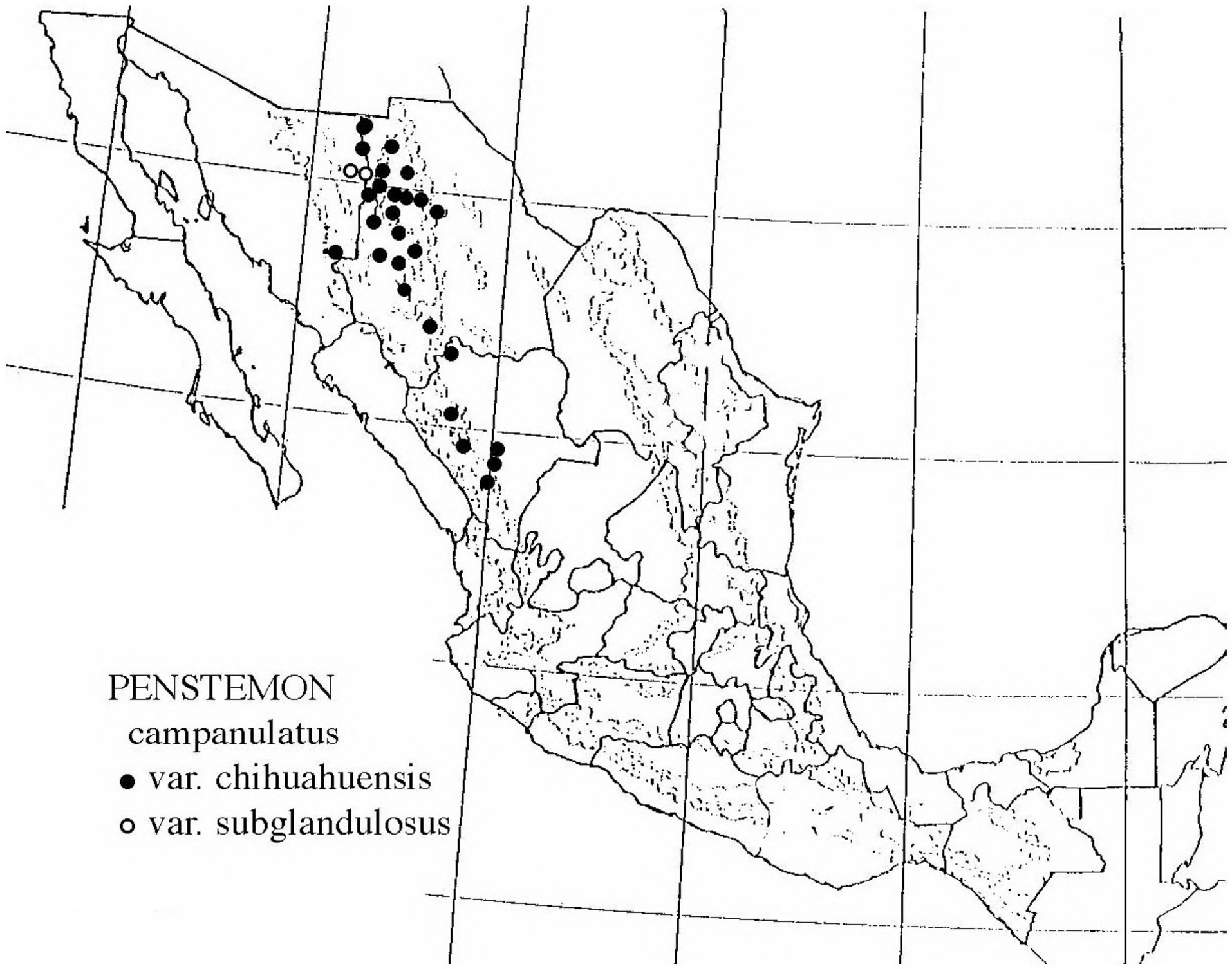
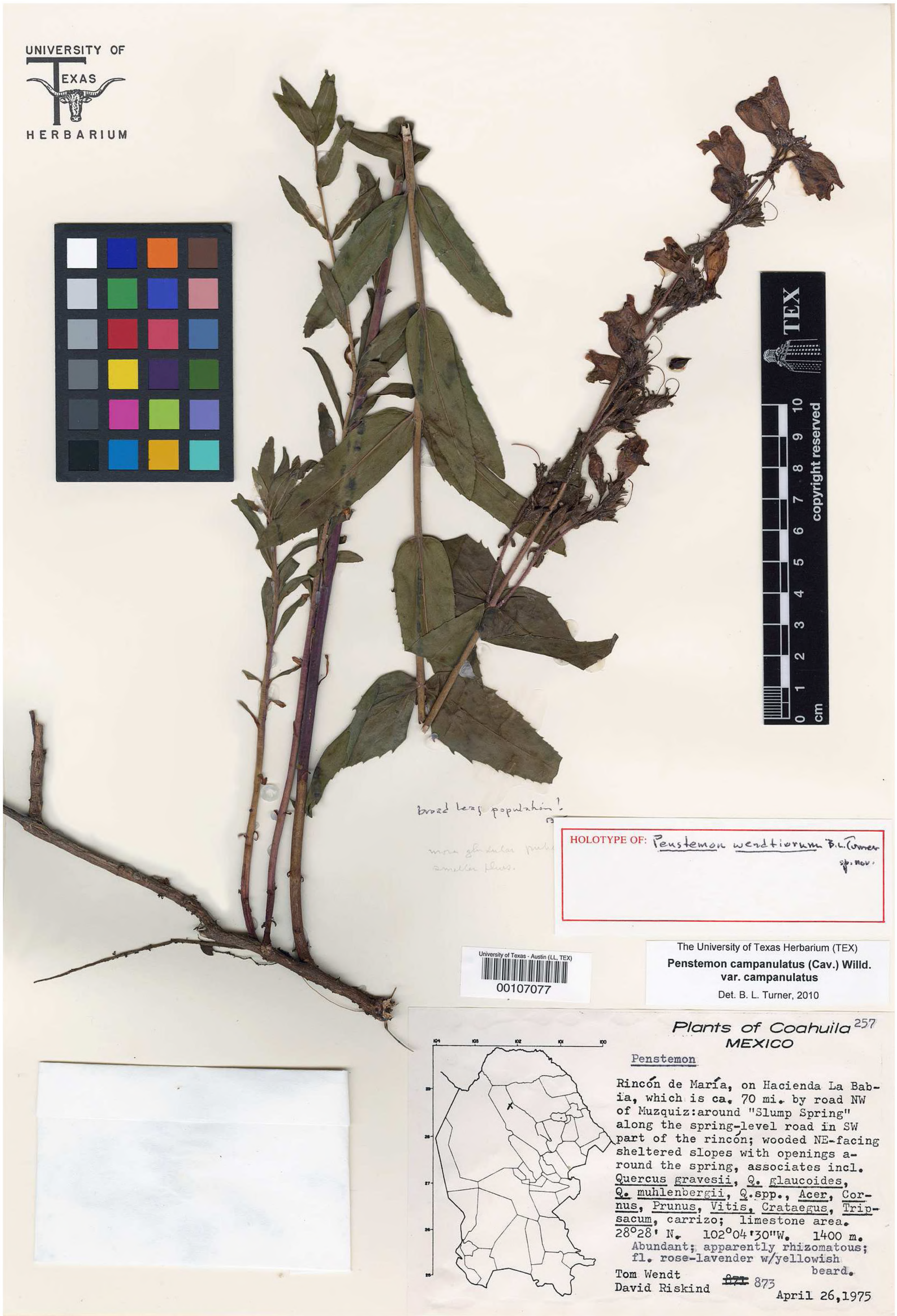


Map 1. Distribution of *Penstemon campanulatus* var. *campanulatus* and *P. wendtiorum*.



Map 2. Distribution of *Penstemon campanulatus* var. *chihuahuensis* and var. *subglandulosus*.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broad leaf population!
more glandular pubs
smaller flwrs.
HOLOTYPE OF: Penstemon wendtiorum B.L.Turner sp. nov.
University of Texas - Austin (LL, TEX)
00107077
The University of Texas Herbarium (TEX)
Penstemon campanulatus (Cav.) Willd.
var. campanulatus
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MEXICO
Penstemon
Rincón de María, on Hacienda La Babia, which is ca. 70 mi. by road NW of Muzquiz:around "Slump Spring" along the spring-level road in SW part of the rincón; wooded NE-facing sheltered slopes with openings around the spring, associates incl. Quercus gravesii, Q. glaucoides, Q. muhlenbergii, Q.spp., Acer, Cornus, Prunus, Vitis, Crataegus, Tripsacum, carrizo; limestone area.
28°28' N. 102°04'30"W. 1400 m.
Abundant; apparently rhizomatous; fl. rose-lavender w/yellowish beard.
Tom Wendt
David Riskind
~~871~~ 873
April 26,1975

Figure 1. Holotype of *Penstemon wendtiorum*.